

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION V


EPA Region 5 Records Ctr.



356921

DATE: 17 JAN 1989

SUBJECT: Response to Discussion of the Stage 1 Workplan for the Remedial Investigation and Feasibility Study for the Scott Air Force Base, Illinois

FROM:  Steve Rothblatt, Chief  
Air and Radiation Branch

TO: Mary Gade, Associate Division Director  
Office of Superfund

Attached are our comments on the Discussion of the Stage 1 Workplan for the Remedial Investigation and Feasibility Study for the Scott Air Force Base.

If you have any questions regarding our comments, please feel free to contact Mardi Klevs, at 886-6054, if there are air issues. Since our comments only address air issues, if we have further comments on radiation issues they will be forthcoming.

Attachment

RECEIVED  
JAN 17 1989

OFFICE OF SUPERFUND  
ASSOCIATE  
DIVISION DIRECTOR

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION V**

**DATE:** 09 JAN 1989

**SUBJECT:** Discussion of the Stage 1 Workplan for the Remedial Investigation and Feasibility Study for the Scott Air Force Base, Illinois

**FROM:** Mardi Klevs, Environmental Engineer *Mardi Klevs*  
Technical Analysis Section

**TO:** Fayette Wrightsell,  
Regulatory Analysis Section

**THRU:** Carl Nash, Chief *Carl Nash*  
Ambient Assessment Unit

Joseph Paisie, Chief *Joseph Paisie*  
Technical Analysis Section

Please submit the following discussion of the "Stage 1 Workplan for the Remedial Investigation and Feasibility Study for the Scott Air Force Base, Illinois", to Kathleen Warren, Environmental Review Branch.

Thank you for the opportunity to review the air portion of the "Stage 1 Workplan for the Remedial Investigation and Feasibility Study for the Scott Air Force Base, Illinois". The Air and Radiation Branch (ARB) has several comments to make. The ARB recommends that the Workplan for the Remedial Investigation (RI) include investigation of the contamination of the air by the pollutants found in the landfill, and in other areas. The Fire Protection Training Areas and spills sites should be also sampled for air contamination.

The ARB suggests a program of soil gas, ambient air, and vent gas flow monitoring, sufficient to allow modeling of Volatile Organic Compounds (VOCs) volatilizing from the landfill, spills sites, Fire Protection Training Areas and fugitive emissions from any contaminated soil. A risk assessment for the air pathway can therefore be performed using the information gathered in the RI. The remedial alternatives discussed in the Feasibility Study (FS) should be analyzed in light of any harmful exposure to toxic air materials, particularly for those alternatives which will have air releases.

The contractor should test for inorganic acids, organics, inorganics, and metals in the air. Care in the selection of monitoring equipment should be employed so as to minimize the chance of chemical interferences, or the likelihood of dilution or breakthrough. In general, for organics, the ARB recommends the use of canister sampling with cryogenic analysis for the determination of the presence of trace amounts of VOCs. However, for certain VOCs, other sampling techniques may produce more accurate results.

The organics should be speciated with a gas chromatograph-mass spectrometer. A test kit can be used for a qualitative analysis of the inorganic acids. If the presence of inorganic acids is indicated, more refined sampling and analytic techniques will have to be developed. If this is the case, or if the presence of metals is suspected, an analytical chemist should be consulted for the best sampling and analytic methods. The presence of methane should be tested for with an organic vapor analyzer. The U.S. Environmental Protection Agency should reserve the right to review the selected sampling and analytic methods.

When reviewing RI/FS from past Superfund sites, ARB has seen a tendency to offer air data taken for occupational health and safety reasons in lieu of ambient air sampling and modeling. We have concerns about this approach and would like to caution you against its use. Air sampling protocols developed for health and safety investigations are driven by the relatively high threshold limit values, which are much greater than ambient air health benchmarks. A substance can exist at very low concentrations in the ambient air, but yet pose a significant public health problem due to extreme toxicity and long exposure. The organic vapor analyzer discussed in the workplan may be suitable for determining what level of personal protection is needed, but will not be sufficient for measuring and speciating low levels of air toxics.

Landfills that have been capped, and that have received industrial wastes, are likely sources of volatile organics. Fugitive dust emissions may also be a source of undesirable air emissions. Both VOCs and fugitive dust emissions need to be estimated in the RI for all contaminated areas. For the landfill, the contractor has two approaches that he can take in determining ambient air concentrations. He can either speciate the gases venting from the landfill, either by sampling within the vent (if the cap is vented) and determining the air flow, or he can conduct perimeter ambient air sampling. Of the two approaches, ARB recommends that vent sampling/air flow measurement technique. With this information, air dispersion modeling can be used to determine hot spots in the ambient air and risk to the public. The problem with ambient air sampling of an unknown source is that it is very difficult to determine in advance where and when the highest concentrations of pollutants are going to take place, and to locate and time the monitors accordingly. Similarly, the contractor should estimate ambient air concentrations in the air above other contaminated areas through a combination of monitoring and modeling.

If the groundwater samples show VOC contamination, VOCs may volatilize in the air because of the warm temperatures and aeration associated with showering. If contaminated water is used for showering, it is suggested that the contractor model exposure for this air pathway.

After the ambient air data is collected, a risk assessment should be developed for all the air pathways. The indicator chemical list should include any substances that are carcinogenic when inhaled, or present in the air media in sufficient concentrations so as to pose a health problem, even if they don't need to be included from a water/ingestion health standpoint.

We have concluded our comments on the Work Plan. We look forward to working with you during the RI/FS stages and beyond. If you have any questions, please contact Mardi Klevs, of my staff, at 886-6054.